

Nervilia hallbergii Blatter & McCann in J. Bombay Nat. Hist. Soc. 35: 726.1932.

N. calcicola Kerr in J. Siam Soc. Nat. Hist. Suppl. 9(2): 242. t.7.1933.

Proteranthous, tuberous herb up to 15 cm tall (scape). Tuber sub-globose, 0.6-1.5 cm diam. *Leaves* broadly ovate to suborbicular, 2-4 cm across, base cordate, margin undulate to crenulate, apex acute to acuminate, glabrous, spreading on ground; petioles sheathing at base. *Flower* solitary, at right angle on scape; scape with two internodes; scape sheaths two, linear-oblongate, 1.5-3 cm long, apex acute to acuminate, clasping, glabrous; floral bract solitary, linear-lanceolate, 0.3-0.7 x 0.2 cm, acuminate. Flowers (sepals and petals) light maroon-green to greenish-purple to greenish-brown; nerves deep-coloured; lip apple-green to white, tinged with pink; *sepals* linear-oblongate, 1.3-1.8 x 0.2-0.3 cm, acute, 3-nerved; *petals* linear-oblongate, 1.2-1.7 x 0.15-0.2 cm, acute, 1-nerved; *lip* 1.5-2 x 0.2-0.3 cm, distinctly 3-lobed, weakly saccate at base, with 2 hairy lines on hypochile and one papillose line on epichile; lateral lobes triangular, about 0.1 x 0.1 cm; middle lobe larger, obovate to ovate, about 1 x 0.3

cm, margin entire; column straight. *Fruits* cylindrical.

Specimen examined: West Sikkim, Yoksum to Bakhim, 1800 m, May 12, 2002, D. Maity & N. Pradhan 23403 - BSHC (two gatherings).

Field notes: "Terrestrial, bulb globose, juicy; sepals and petals greenish-brown; lip white, tinged with pink dots; middle lobe flat; lateral lobes very small."

Distribution: INDIA: Himalaya: Uttaranchal; Uttar Pradesh, Sikkim, Arunachal Pradesh, Orissa, Karnataka, Maharashtra; Bhutan; Thailand; Malay; Borneo; grows on open slopes, loose soils, along road sides in warm subtropical forests ascending up to 1800 m altitude.

Fl. and Fr.: May-July.

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26. *BULBOPHYLLUM REPTANS* (LINDL.) LINDL. (ORCHIDACEAE): A CRITICAL STUDY

Bulbophyllum reptans (Lindl.) Lindl. is known for its wide distribution from India (Garhwal Himalaya, Sikkim, Arunachal Pradesh) to Vietnam including Nepal, Bhutan, Bangladesh, China, Myanmar and Thailand (Seidenfaden 1979). This taxon is further enriched by two more varieties to the typical one as var. *subracemosa* Hook.f. and var. *acuta* Malhotra and Balodi.

The variety *subracemosa* Hook.f. was established by Hooker (1890) based on differentiating characters, like presence of smaller pseudobulbs; much shorter length of oblong, obtuse floral bracts than the longer pedicellate ovary. This variety was recognized by King and Pantling (1898), Srivastava (1996) and Chowdhery (1998).

The other variety *acuta* Malhotra and Balodi (1984) is differentiated by longer floral bracts than the pedicellate ovary, based on collection from Gorpatta, Gori Valley, Pithoragarh, India (*M.A. Rau*, 35340-CAL).

Seidenfaden (1979) had quoted the opinion of Guillaumin regarding the further taxonomic treatment of this taxon, that the flower of the Langbian plant is yellow with small dark red spots at tips of the petals and dark red lip with a green median line, which is not quite different from the colour description given by Hooker f. and King and Pantling, and therefore perhaps a Vietnamese variety should be

recognized as a separate identity. In the Thai plant, the flowers are yellow, the dorsal sepal with three faint purple lines at base and the proximal edges of the lip being purple.

Thus, the taxon *Bulbophyllum reptans* (Lindl.) Lindl. is now considered to have two more varieties var. *subracemosa* and var. *acuta* in addition to the typical one, and a proposed unnamed (?) variety (Vietnamese variety) based on the colouration of petals and lips. Of course, Seidenfaden (1979) did not recognize the separate entity of the variety *subracemosa* Hook.f. In this regard, he had referred to *Bulbophyllum ombrophyllum* Gagnep.

Regarding the variety *acuta* Malhotra and Balodi, the distinguishing character such as the larger floral bracts than that of the pedicellate ovary, cannot be considered good taxonomic characters to establish a new variety.

While working on the floristics of Kanchenjunga Biosphere Reserve of Sikkim Himalaya, specimen (*D. Maity*, 24275-BSHC) was collected with the smallest pseudobulb (*c.* 7-8 x 7-8 mm), slightly smaller to equal to slightly longer floral bracts (*c.* 5.5 x 2 mm) than the pedicellate ovary; sepals with distinct characteristic shape as stated by Lindley in 1830 with prominent three nerves and light yellow colour; the spatulate *c.* 3.5 mm long petals having brownish-purple coloured lip.

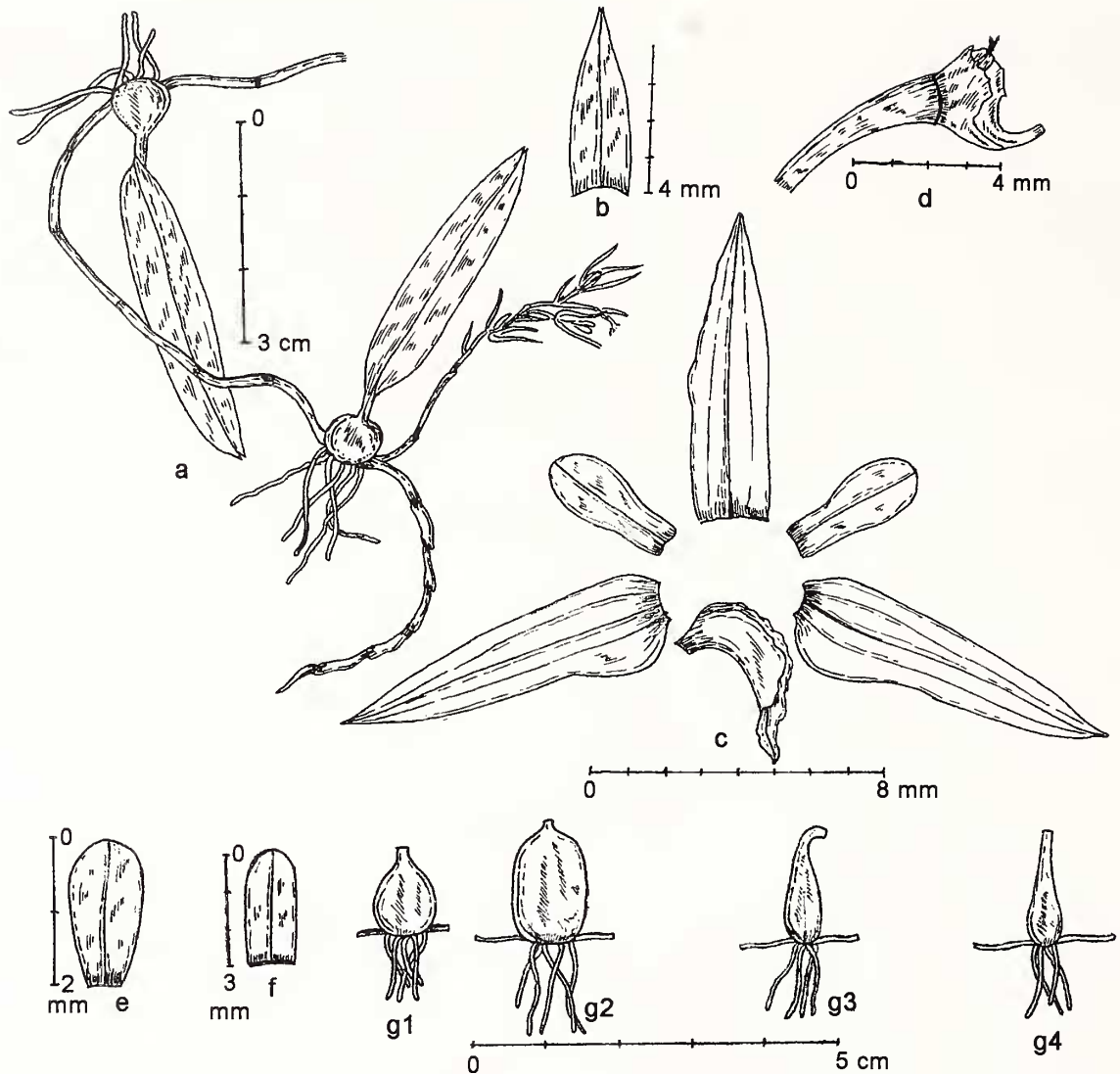


Fig. 1: *Bulbophyllum reptans* (Lindl.) Lindl., a. Habit; b. Bract; c. Floral parts; d. Column (from Maity, 24275-BSHC); e. Petal (J.S. Gamble, 10307-CAL); f. Petal (King & Pantling, 1896; Maity & Pradhan 25721-BSHC); g. Pseudobulbs: g1. *Polunin*, Sykes & Williams, 1825-CAL; g2. Seidenfaden, 1979, p. 111, Fig. 70-L. & C. 148; g3 & g4. *Mokin*, sn., Acc. no. 452304-CAL (Drawn by D. Maity)

This specimen led to a critical study of the literature and the specimens were deposited at CAL. The analysis of the characters stated below shows variation of a good number of characters in *Bulbophyllum reptans* (Lindl.) Lindl. and the varieties based on the shape and size of pseudobulb, shape and size of floral bracts, sepals, petals and lip cannot be considered or treated as distinct to merit varietal status. Moreover, the colour of sepals, petals and lip etc. is not a constant character for this widely distributed species ranging from India to Vietnam. Few line-drawings are also supplemented in support of this opinion along with the citation of specimens studied at CAL gathered from different countries by different collectors (Fig. 1).

The characters of the pseudobulb: Obpyriform (*Polunin*, Sykes and Williams, 1825-CAL), oblong (Seidenfaden, 1979, p. 111, fig. 70-L. & C. 148), orbicular to sub-obpyriform (*D. Maity*, 24275-BSHC); floral bracts variable in length along the scape, often longer to the lower and successively smaller upwards or equal in size having uniform distribution from base to apex or it may be a mixture of longer, equal in size or smaller in the same inflorescence; the shape of the bract varies from lanceolate to oblanceolate to somewhat oblong (*J.S. Gamble*, 10307-CAL); petals are different in shape as oblong (King and Pantling, 1898-Fig. 1.F; Banerji and Pradhan, 1984; *Maity & Pradhan* 25721-BSHC), obovate-oblong (Bhutan, *J.S. Gamble*, 10307-CAL-Fig. 1. E; *Polunin*, Sykes and Williams

1825-CAL; *Mokin*, s.n.-Acc. No. 452304-CAL); spathulate (*D. Maity*, 24275-BSHC-Fig. 1.C). The colour of the petals as well as lips is often considered in the treatment of variety (vide King and Pantling 1896; Seidenfaden 1979). The present study of literature and field notes of the collections is given below, which proves that the colour is variable due to its wide range of distribution in different geographical regions: yellowish with purple spots (King and Pantling 1898; Srivastava 1996; Chowdhery 1998), yellow with small dark red spots at tips of the petals and dark red lip with green median line (Guillaumin 1958), yellowish-green (Banerji and Pradhan 1984), greenish-yellow (Hynniewta *et al.* 2000), light yellow with purple veins, lip brownish-purple (*D. Maity*, 24275-BSHC).

Thus, *B. reptans* is a variable species and the existing varieties and the variety of Seidenfaden (1979) do not deserve separate status. The variety *acuta* Malhotra and Balodi is reduced to a synonym here [syn. nov. of *bulbophyllum reptans* (Lindl.) Lindl.]

Bulbophyllum reptans (Lindl.) Lindl., [Wall. Cat. 1888, 1829 *nom. nud.*]; Gen. & Sp. Orch. 51.1830; Hook.f. in Fl. Brit. India 5: 768.1890; King and Pantling in Ann. Roy. Bot. Gard. Calcutta 8: 77, t. 106. 1898; Pottinger and Prain in Rec. Bot. Surv. India 1: 268. 1898; Duthie in Ann. Roy. Bot. Gard. Calcutta 9(2): 105. 1906; Burkill in Rec. Bot. Surv. India 10(2): 377. 1925; Biswas in Ind. For. Rec. Bot. 3(1): 49.1941; Merrill in Brittonia 4(1): 35. 1941; Tuyama in Hara, Fl. E. Himalaya 426.1966; Deb *et al.* in Bull. Bot. Soc. Bengal 22:212. 1970; Rao and Joseph in Bull. Bot. Surv. India 12(1-4): 152.1965; Matthew in Bull. Bot. Surv. India 8(2): 166. 1966; Banerji and Thapa in J. Bombay Nat. Hist. Soc. 66(2): 292.1969; Hu in Quart. Journ. Taiwan Mus. 25 (1-2): 63. 1972; Rao and Balakrishnan in Rec. Bot. Surv. India 20(2): 206. 1973; Deb and Dutta in J. Bombay Nat. Hist. Soc. 71(2): 285. 1974; Hara *et al.* in Enum. Fl. Pl. Nepal 1: 33. 1978; Seidenfaden in Or.

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B. reptans (Lindl.) Lindl. var. *acuta* Malhotra and Balodi in Bull. Bot. Surv. India 26 (I & 2): 110-111. 1984, *syn. nov.*

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